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Taxing Snack Foods: What to Expect for Diet and Tax Revenues

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Abstract

Health researchers and health policy advocates have proposed levying excise taxes on snack foods as a possible way to address the growing prevalence of obesity and overweight in the United States. Some proposals suggest higher prices alone will change consumers' diets. Others claim that change will be possible if earmarked taxes are used to fund an information program. This research examines the potential impact of excise taxes on snack foods, using baseline data from a household survey of food purchases. To illustrate likely impacts, we examine how much salty snack purchases might be reduced under varying excise tax rates and possible consumer price responses. We find that relatively low tax rates of 1 cent per pound and 1 percent of value would not appreciably alter consumption—and, thus, would have little effect on diet quality or health outcomes—but would generate $40-$100 million in tax revenues.

Keywords: Obesity, excise tax, price elasticity of demand, snack food

Introduction

The prevalence of obesity for Americans age 20-74 rose from 15 percent in the late 1970s to 23.3 percent in the late 1980s and to 30.9 percent in 1999-2000 (Flegal et al., 2002).[1] Increases occurred for both men and women in all age groups. Similar increases occurred for the share of the population that is overweight, but not so fat as to be labeled obese. Also, the prevalence of overweight children has been rising (Ogden et al., 2002).[2] Overweight children often become overweight adults, and there is reason to believe the trend toward overweight and obesity among all Americans may continue.

Whether the high and rising prevalence of overweight and obesity is a public or private health problem is a contentious issue. Many in the public health community say overweight and obesity are public health problems because so many people suffer from chronic diseases associated with these conditions.

[1] In population studies, it is common to classify adults as obese, overweight, healthy weight, or underweight. Such classification uses a measure known as body mass index (BMI), calculated as weight in kilograms divided by height in meters squared. Individuals are classified as obese when their BMI is greater than or equal to 30. Individuals are classified as overweight, but not obese, when their BMI is greater than or equal to 25, but less than 30. Healthy weight is less than 25, and greater than or equal to 18.5. Underweight is less than 18.5.

[2] Children are not classified as obese. Instead, categories are denoted overweight and at risk of being overweight. Body mass index cutoffs for both categories vary with age and gender.

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They argue that these problems pose as large a threat of morbidity as poverty, smoking, or problem drinking (U.S. Department of Health and Human Services, 2001). This conclusion is leading public health officials to search for new ideas for programs designed to influence diet, exercise, and other weight-reducing lifestyle choices.

Conversely, Epstein (2003) argues that public health interventions should be directed at communicable diseases and pollution, problems partly caused by individuals making choices without accounting for the cost they impose on others. Obesity is not a communicable disease; one person's diet and lifestyle choices do not put others at greater risk of obesity. There are no noncommunicable epidemics. So, Epstein concludes that obesity does not warrant public sector resources. Further, interventions intended to mitigate obesity's adverse effects are likely to have unintended effects that compromise public health. When the public sector expands, individual wealth has to contract, leaving individuals less able to make choices that reduce their health risks and less able to pay for new medical and risk-reducing technologies. The impact may be to reduce incentives for research and development in health sciences.

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Despite the possibility that any intervention designed to reduce the prevalence of obesity might reduce economic efficiency, there is no shortage of ideas for ways government could intervene to influence diet and lifestyle choices, including an excise tax on snack foods. The various proposals to tax snack foods are not all alike. They all aim to reduce consumption of snack foods, but differ substantially on the mechanism through which taxes will achieve that goal.

In this short paper we cannot resolve whether obesity and overweight are best left to individual diet and lifestyle decisions or whether economic efficiency is more likely advanced through public sector programs. We can, however, bring together information on consumer food choices and responsiveness to price changes and use that information to suggest whether taxes alone could change consumers' diet quality and health. First, we identify characteristics and goals of four snack tax proposals. Then, we use the ACNielsen Homescan panel data to examine likely impacts of taxes on consumers' dietary choices. (See box, "ACNielsen Homescan Panel Data.")

The range of snack foods is large. To keep our discussion to a manageable size, we illustrate points by focusing only on salty snack foods.

To establish a baseline for analysis, we tabulated quantities of salty snack foods purchased by different types of households. Associated household demographic characteristics allow us to identify systematic differences in snack food demand among household types. We use the baseline to forecast the immediate impacts of taxes. There are two sources of uncertainty in such forecasting: namely the size of the tax and consumer response to a price increase. Currently, there is no information suggesting that a tax of any size is likely. Without any likely limits to impose on the problem, we examine impacts of a range of taxes, from putatively small to coercively large. We have some information that suggests consumers are not likely to substantially cut back their purchases of snack foods in response to retail price increases. Thus, we examine a range of responses to taxes, but limit the range to proportionately small responses.

No tax proposal is sufficiently detailed for an analyst to precisely identify its burden or whether it raises equity issues. However, our data allow us to show that a relatively small *ad valorem* tax (an excise tax imposed as a specific percentage or tax rate rather than a per unit tax) would not immediately change consumers' diets, but would raise tax revenues.

What Has the Public Health Community Said About Taxing Snack Foods?

Battle and Brownell (1996) proposed four policy changes to combat obesity, including taxes on unhealthful foods and subsidies for healthy foods. They also argued for restricting food advertising and possibly eliminating advertising of candy, soft drinks, fast foods, and sugared cereal aimed at children, as well as providing more bicycle

ACNielsen Homescan Panel Data

This report uses a unique data set, the ACNielsen Homescan panel, a nationwide panel of households that scanned their food purchases (from all retail outlets) at home. Data included detailed product characteristics, quantity, and expenditures for each food item purchased by each household. The data are unique in that they include detailed purchase information as well as demographic information about the households in the panel.

We used the random-weight panel, which is a subset of the full panel (12,000 households). Households in the subset scanned both fixed-weight products (products with a universal product code, or UPC) and random-weight products (e.g., meat and poultry, fruit and vegetables). From this set, we drew data from households that were in the panel for at least 10 out of the 12 months in 1999—7,195 households. Our sample is projectable to the U.S. universe of product purchases.

The data set is a stratified random sample. The sample was selected based on both demographic and geographic targets. Stratification was done to ensure that the sample matches the U.S. Census. The household was the primary sampling unit and there was no intentional clustering. The weight assigned to each household reflects the demographic distribution within strata.

We calculated quantity-weighted average prices each household paid for various types of salty snack foods in a year by summing household expenditures for the entire year for each type of snack food and dividing by quantity purchased over the year. The average annual prices we calculate account for promotions and coupon use.

paths and recreation centers to encourage physical activity. Although they did not specify a tax level, their purpose in manipulating food prices was to create an incentive for consumers to increase consumption of "healthy" foods and decrease consumption of "unhealthy" foods (p. 762).

Nestle (2002) listed five classes of changes in public policies intended to promote better diet and lifestyle choices: education reforms, food labeling and advertising reforms, health care and training requirements, transportation and urban development requirements, and taxes. Taxes include the following:

"Levy city, state, or federal taxes on soft drinks and other 'junk' foods to fund 'eat less, move more' campaigns. Subsidize the costs of fruits and vegetables, perhaps by raising the costs of selected foods of minimal nutritional value" (p. 367).

Nestle did not specify a tax level nor exactly define the foods that she would tax. Her proposal is similar to that of Battle and Brownell in that the tax is intended to raise snack food prices and lower fruit and vegetable prices, creating an incentive for consumers to substitute fruit and vegetables for snack foods in their diets. But Nestle's tax proposal is also intended to raise revenues to fund an information program.

Marshall (2000) proposed (for the United Kingdom) extending the value-added tax (17.5 percent) to particular foodstuffs he considered culpable in raising serum cholesterol levels—those high in saturated fats—and to exempt from taxation those foods currently taxed that are cholesterol neutral. He argued that this new selective tax would provide incentives both for consumers to change their diets and for manufacturers to reformulate foods. For example, he would tax whole milk but not skim milk.

"Biscuits, buns, cakes and pastries, puddings, and ice cream could be taxed if they raised cholesterol concentrations but exempt if the ratio of polyunsaturates to saturates (and trans fatty acids) were more favourable" (p. 303).

While his proposal was intended to reduce the incidence of ischemic heart disease, medical associations in England and Australia have more recently considered similar taxes to combat obesity.

Jacobson and Brownell (2000) countered Marshall's proposal by arguing that legislators would prefer to establish tax rates for entire classes of foods, like snack foods, rather than taxing an attribute like saturated fat levels in foods. They proposed a tax of 1 cent per 12-ounce soft drink and 1 cent per pound of candy, chips, and other snack foods, or fats and oils. Their plan depends on demand being unresponsive to price changes as they would earmark taxes to fund information campaigns.

Proponents of snack food taxes have voiced a variety of goals. Not all the goals can be realized, at least immediately. For example, if a snack foods tax was passed on to consumers in the form of higher retail prices, and consumers were very responsive to changes in snack food prices, consumers might abandon snack foods. In that case, there would be no tax revenue for funding an information campaign. From the tax proponents' perspective, this situation would have a desirable aspect: Consumers would be purchasing and, presumably, consuming fewer snacks. The undesirable aspect would be that there would be no money to try to inform consumers how they ought to eat. So, the desirable aspect would last only as long as the tax; removing the tax would remove the incentive to economize on snacks.

Alternatively, if consumers simply paid the tax without altering their snack food consumption, diet quality would be unchanged, snack food manufacturers' sales and revenues would be unchanged, and there would be no incentive for manufacturers to reformulate their products. There would, however, be tax revenues that could be earmarked for an information program. Suppose that the point of an information program is to change consumers' preferences, making snack foods less desirable. If such a program were successful, consumers would become less willing to purchase snacks. That is, at each price at which snacks might be sold, consumers would choose less. But that success would reduce tax revenues. So, if the information program resulted in a permanent change in consumer preferences, the program's budget would contract along with the demand for snacks.

Linking a shrinking program budget with program success, however, is opposite to the way organizations, private or public sector, usually operate. Usually, a division of a private sector company that increases profits or a public sector agency that provides additional public services soon receives larger budgets, additional staff, and more responsibility. The challenge for an information program lies in finding a way to use dwindling tax funds effectively.

Whether there will be tax revenue available or whether the tax (absent an information program) will change consumers' diets depends on how big an incentive the tax is for consumers. The incentive effects will depend on the tax base (which foods are taxed) and the tax rate, and how important those foods are to consumers—namely the extent to which consumers will modify their dietary choices to escape the tax. If consumers consider the tax a trifle, or if there are no untaxed foods consumers could substitute for snack foods, there will be few or no dietary changes.

Who Purchases Snack Foods and How Much Do They Purchase?

While salty snacks are a subset of all snack foods, focusing attention on this class of snack food is sufficient to show three points. First, snack food consumption is nearly universal, so almost all households will bear some burden for a tax that raises snack food prices. Second, descriptive statistics show that there are systematic differences among consumers, with both quantity purchased and expenditures following demographic and household characteristic lines. Third, despite the variance in quantities purchased and expenditures, this class of snack foods appears to be a relatively small expenditure for all types of households.

This latter finding suggests that snack food demands will not respond very much to tax-induced price changes. If consumers pay more attention to taxes on large expenditures than on small expenditures, we could expect that consumers will treat a small *ad valorem* tax as a trifle.

Almost everyone purchases some snack foods. Data show that over the course of a year, about 91 percent of households purchased potato chips (table 1). On average, households that did purchase potato chips purchased 9.8 pounds yearly and spent about $26. Examining a somewhat wider class of snacks—all chips (potato, corn, and tortilla)—shows an even larger share of households (about 96 percent) that purchased snacks. There are other salty snacks besides chips: pretzels, cheese puffs, microwave popcorn, and nuts (packaged and bulk). These snacks were purchased by 96.8 percent of households. Considering all salty snacks, 99 percent of households purchased some, on average spending $76 yearly on 31.8 pounds. The per capita quantity purchased was 14.5 pounds.

Of course, not all households are average. Figure 1 shows the distribution of household consumption of all salty snacks in 1999. Each bar represents the percentage of households for which annual purchases of all salty snacks fell in a particular 2-pound interval, say 8-10 pounds. The modal (most typical) purchase level is 10-12 pounds. The distribution is skewed as the modal purchase level falls below the average. The long right tail of the distribution shows that a small fraction of households purchase relatively large quantities. At ever-diminishing levels, the tail extends far beyond what

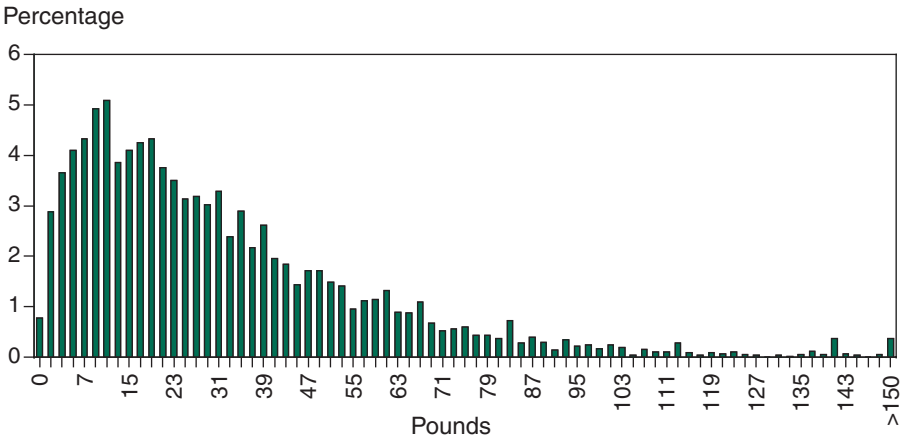
Table 1—Salty snack consumption and expenditures, 1999

Snacks	Share of households that purchased snacks (percent)	Average quantity purchased by households that did purchase (pounds)	Per capita quantity purchased by households that did purchase (pounds)	Average expenditures by households that did purchase
Potato chips	91.3	9.76	4.18	$26.14
All chips	95.5	16.34	7.00	$41.43
Other salty snacks	96.8	16.47	7.92	$37.41
All salty snacks	99.2	31.81	14.47	$76.39

Source: Tabulations from ACNielsen Homescan panel, 1999.

Figure 1

Percentages of households purchasing salty snacks, by quantity, 1999



Source: Tabulations from ACNielsen Homescan panel, 1999.

is reported in figure 1. The rightmost bar (0.37 percent of households) represents all households purchasing 150 pounds or more.

Although almost all households purchase salty snacks, there are systematic differences in expenditures and quantities purchased among households with different socioeconomic characteristics.

Household size

There is a strong relationship between salty snack quantities purchased and household size—larger households purchase more than smaller households (fig. 2). However, per capita quantities purchased decrease with household size, indicating that household consumption does increase with household size, but at a decreasing rate. This pattern of purchases is explained by figure 3. We tabulated quantities purchased by households with children age 6 and above (denoted as households with children[3]) and all other households. Salty snack purchases in households with children (45.1 pounds) are 60 percent higher than households without children (28.1 pounds). However, in per capita terms, households with children consume 32 percent less than those without children. In effect, households usually increase in size by adding children and children eat less salty snack foods than adults.

Race and ethnicity

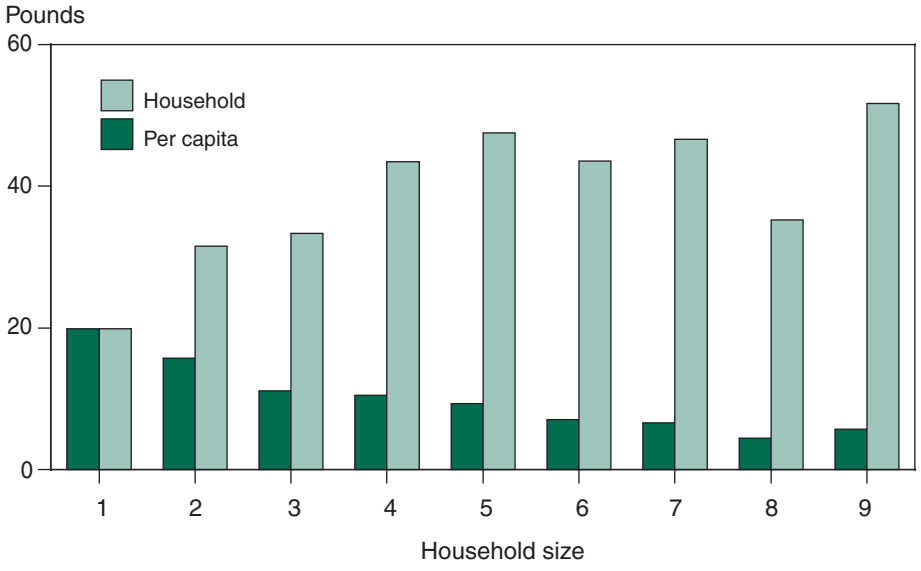
Panel households were asked to identify their race and ethnicity. We used those responses to classify households into four broad categories: non-Hispanic White, non-Hispanic Black, Hispanic, and Asian.[4] Race/ethnicity is associated with expenditures and quantities purchased of snack foods. Non-Hispanic White households purchased the largest quantity of salty snacks, followed by Hispanic and Asian households, respectively (fig. 4). Non-Hispanic Black households purchased the lowest quantity of all salty snack foods. In per capita terms, the order differs. Hispanic households purchased less than Asian households. This difference may reflect family size choices rather than differences in food preferences. Hispanic households in the sample tended to have larger families (3.3) than Asian households (2.4).

[3]Panel households indicated whether they had children in any of three categories: less than 6 years of age, 6-12 years of age, or 13-18 years of age. For the purpose of distinguishing households with and without snack-eating children, we selected the 6-12 and 13-18 years of age categories to represent households with children. The less than 6 years of age category clearly includes some very young children who would not be eating salty snack foods.

[4]We do not report on the group that selected "other" for race.

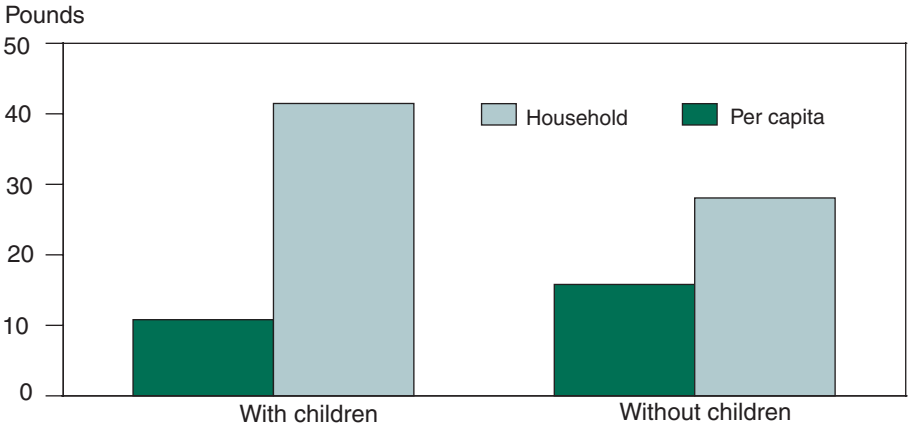
Figure 2

Household and per capita quantities of salty snacks purchased, by household size, 1999



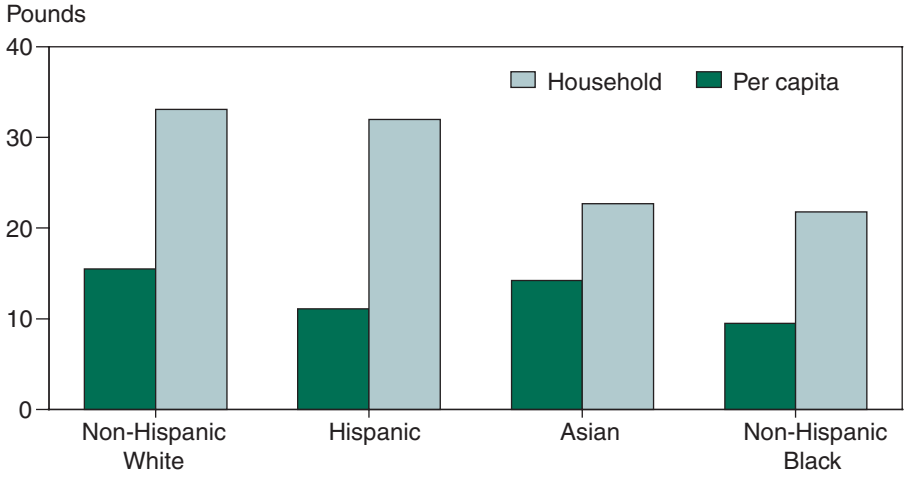
Source: Tabulations from ACNielsen Homescan panel, 1999.

Figure 3
Household and per capita quantities of salty snacks purchased, by households with and without children, 1999



Source: Tabulations from ACNielsen Homescan panel, 1999.

Figure 4
Household and per capita quantities of salty snacks purchased, by race/ethnicity, 1999



Source: Tabulations from ACNielsen Homescan panel, 1999.

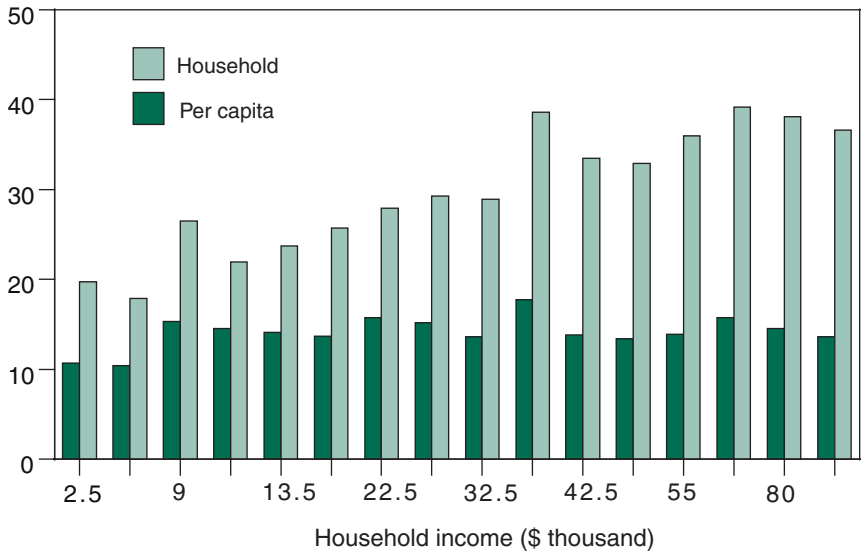
Household income

Panel members were asked to identify household income by selecting one of 16 income ranges.[5] In Figure 5, we identify the midpoint of each range and, for each income range, show household and per capita quantities purchased of all salty snacks. While quantity purchased increases with income, per capita quantity purchased is not associated with income. Similarly, household expenditures on salty snacks increase with income; there appears to be at most a weak relationship between per capita expenditures and income (fig. 6). Per capita quantity purchased and expenditures peak at an income level of $37,500.

Although there is a systematic variation in snack food consumption and expenditures by household size, race/ethnicity, income, and other socioeconomic factors, expenditures on snack foods constitute a very small fraction of household income. For example, for the income group with the highest per capita expenditures on snack foods ($37,500), household and per capita expenditures on all snacks are 0.2 and 0.1 percent of income, respectively. For the income group with the highest household expenditures on snacks ($80,000), household expenditures on snacks are 0.1 percent of the household income.

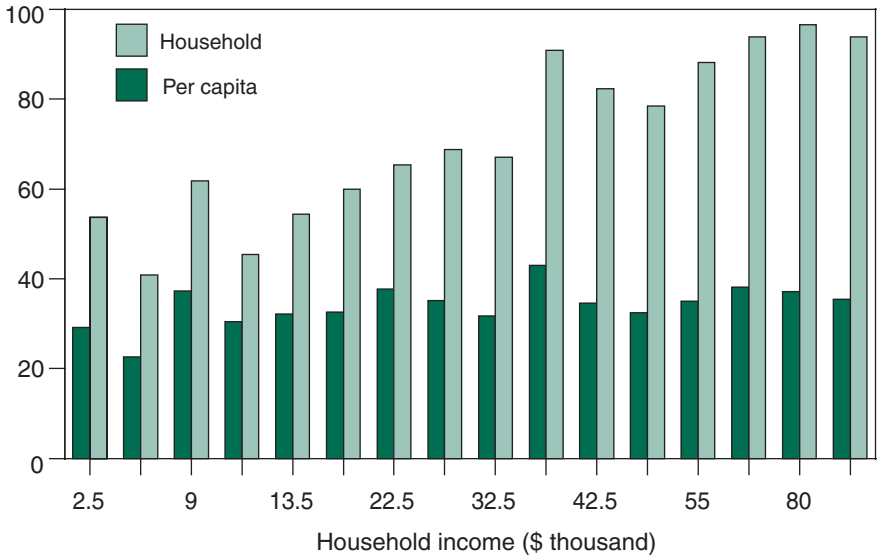
[5]Respondents were offered 16 ranges, e.g., under $5,000, $5,000-$7,999, $8,000-$9,999, $100,000 and over. We treated each observation as the midpoint of the range, with the upper range identified as $100,000.

Figure 5
Household and per capita quantities of salty snacks purchased, by income group, 1999
Pounds



Source: Tabulations from ACNielsen Homescan panel, 1999.

Figure 6
Household and per capita expenditures on salty snacks, by income group, 1999
Dollars



Source: Tabulations from ACNielsen Homescan panel, 1999.

Simulating Diet, Health Outcome, and Tax Revenue Impacts

Taxes might or might not influence dietary choices. The magnitude of the influence depends on the size of the tax, how difficult it would be for resources used in manufacturing and distributing snacks to move to an untaxed sector, and how responsive consumer demands are to taxes. For simplicity and illustrative purposes, we suppose the entire tax is passed forward to consumers. The impacts on quantity of snacks purchased, (and thus on consumer diets) and tax revenues depends on consumer responsiveness to prices (including taxes) and the size of the tax.

Table 2—Tax-induced reductions in annual quantity purchased and taxes collected for various price elasticity and tax rate assumptions

Tax rate (percent)	Reduction in ounces purchased	Reduction in calories consumed	Reduction in body weight (pounds)	Tax paid (dollars)	U.S. total tax (million dollars)
			Per capita		
Very inelastic demand (0.2)					
0.4	0.19	28	0.01	0.14	40.8
1.0	0.46	69	0.02	0.35	101.9
10.0	4.63	695	0.20	3.44	1,000.6
30.0	13.89	2084	0.60	9.90	2,879.3
Inelastic demand (-0.7)					
0.4	0.65	97	0.03	0.14	40.7
1.0	1.62	243	0.07	0.35	101.4
10.0	16.21	2431	0.69	3.27	949.6
30.0	48.62	7292	2.08	8.32	2,419.8
Unitary elastic demand (1.0)—revenue constant					
0.4	0.93	139	0.04	0.14	40.7
1.0	2.32	347	0.10	0.35	101.1
10.0	23.15	3473	0.99	3.16	918.9
30.0	69.45	10418	2.98	7.37	2,144.2

Source: Economic Research Service/USDA.

Table 2 shows the calculated effects of different tax rates for different measures of consumer responsiveness to prices. Price elasticity of demand—percentage change in quantity demanded per percentage change in price—takes three levels. We examine the possibility that quantity demanded is very unresponsive to price changes (very inelastic demand—price elasticity of demand = -0.2); quantity demanded responds less than proportionately to price changes (inelastic demand—price elasticity of demand = -0.7); and quantity demanded responds equiproportionately to price changes (unitary elastic demand—price elasticity of demand = -1.0).[6] We examine 4 possible *ad valorem* tax rates: 0.4, 1, 10, and 30 percent. The first is nearly equivalent to the Jacobson and Brownell proposal of a 1-cent-per-pound tax. Thus, we examine 12 possibilities for tax rates and consumer price responsiveness.

We use baseline information from the panel on average annual price paid and average per capita quantity purchased across the entire year for each of the 12 cases. Assuming that all purchases are consumed and that other foods would not be substituted for salty snacks allows us to calculate changes in caloric intake (although probably overestimated). We assume salty snacks average 150 calories per ounce.[7] And, at 3,500 calories per pound of body weight (American Dietetic Association, 2003), we can calculate tax-induced reductions in body weight (again, probably overestimated). Data on per capita expenditures on salty snack foods, price elasticity of demand, and tax rates are sufficient to calculate taxes paid by each individual. We use the U.S. Census population estimate to calculate total tax revenue collected.

Table 2 shows that salty snack consumption decreases as the tax rate and price elasticity of demand increase, exactly as expected. For the two lowest tax rates of 0.4 and 1 percent, calculated reductions in annual purchases are negligible, ranging from 0.19 ounce per year to 2.32 ounces per year, depending on the elasticity assumption. Even when we consider impacts on the relatively small number of households purchasing extremely large quantities—say five times the average quantity (see figure 1), scaling up all the tax impacts by a factor of five—the tax from these two rates amounts to $0.70-$1.75 per person per year.

[6]Our own research points to elasticity estimates ranging from -0.2 to -0.7. See, "Taxing Snack Foods: Manipulating Diet Quality or Financing Information Programs?" forthcoming in *Review of Agricultural Economics*, Vol. 27, No. 1, Spring 2005.

[7]Most chips are labeled as 150 calories per ounce. Peanuts are labeled as 165 calories per ounce and other nuts labeled higher. Pretzels and microwave popcorn are around 110 calories per ounce, but can carry more calories.

For the two lowest elasticity assumptions and the two lowest tax rates, calories and body weight reductions are close to zero. The calorie and body weight impacts are likely overestimated because we assumed the tax would be entirely passed forward to consumers. We can conclude that, for these cases, taxes would not appreciably alter diet quality or health outcomes. The cases do suggest that tax revenues would, however, be positive—approximately $40 million per year for the 1 cent per pound tax (0.4 percent) and $100 million for the 1-percent tax.

At higher tax rates (10, 30 percent), impacts are likely overestimated. When taxes increase to 10 or even 30 percent and the effective price the consumer pays increases, other foods may begin to look more attractive. That is, an inelastic demand is unlikely to be very inelastic over a wide range of price increases. Consumers might substitute untaxed foods for snack foods, leaving average taxes paid and total taxes collected smaller than estimated in table 2. Further, if consumers substitute untaxed foods for taxed snack foods, the reductions in calories consumed and body weight will also be overestimated.

Conclusion

The public health and economic efficiency approaches to choosing a role for government often reach opposite conclusions. From the public health perspective, the potential for illness or injury is sufficient to justify government action; large numbers of deaths or illnesses are more compelling reasons for government action. The dollar value of benefits and costs derived from government programs does not necessarily enter the public health decision calculus. Alternatively, economic efficiency demands that proposed government programs clear two hurdles. First, there must be an efficiency problem for government to solve. Second, a corrective program must be worth the cost.

So far, economists have not reached a consensus on whether obesity raises economic efficiency problems. If obesity results from informed individuals' willingly making diet and lifestyle choices, there is no way to argue for inefficiency; we have to conclude that many are willing to accept extra weight because the cost of diet and exercise is too high. On the other hand, arguments for intervention could be mounted on the basis of imperfect information about the relationship between diet and health. Nevertheless, many in the public health community have proposed interventions, and taxing snack foods has been advocated frequently. But, without a clear statement of the efficiency problem caused by overweight and obesity, we cannot say whether such taxes might increase or decrease economic efficiency—i.e., whether benefits exceed costs.

Our calculations suggest that imposing taxes on the order of 1 cent per pound—as suggested in the literature—is unlikely to have much influence on consumer diet quality or health. Despite not knowing exactly how consumers might respond to higher prices for salty snacks, we did show that relatively lower tax rates imply a very narrow range for tax revenues—approximately $40 million for the 1-cent-per-pound tax rate and $100 million for the 1-percent rate.

No snack tax proposal includes detailed operation plans. Thus, our tabulations are limited. Some proposals suggest earmarking tax revenues for information programs, but none have specified how they would try to convince consumers to make different dietary choices. Our estimates of dietary impacts may, therefore, be incomplete.

Incompleteness does not mean our estimates are too low. We found that the lower tax rates yield virtually no diet impacts. Adding an information program might increase diet impacts, but that conclusion is far from certain. A short-term program that would be widely used and offer long-term weight reduction has so far eluded the private sector despite huge financial incentives. Food advertisements on children's television programs are repeated frequently, indicating that food manufacturers believe the effectiveness of this information decays very rapidly. Hence, it is possible that a new program would have no effect on diet quality. An information program with demonstrable health benefits may need an entirely different approach in order to be effective.

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How Do Taxes Affect Food Markets?

By Patrick Canning (pcanning@ers.usda.gov) and Marinos Tsigas

Several food market indicators would change if a flat income tax system—that is, a system without exemptions, deductions, credits, and deferrals—replaced the current system. Our findings support the widely held view that even though a flat income tax system would increase national income, gains for consumers would be only modest. Nor would economic growth be universal. A federal flat tax structure would lead to smaller farm industries with lower than average growth rates, larger food industries with higher than average growth rates, slightly lower food production costs and consumer food prices, reduced net farm exports, and reduced net food imports. If States were to enact similar reforms, consumer food prices would drop 2.2 percent overall and over 5 percent in the Delta, Appalachian, and Southern Plains regions. Some of these indicators vary substantially by region.

www.ers.usda.gov/publications/aib747/aib74704.pdf
September 2000

A Comparison of Vertical Coordination in the U.S. Poultry, Egg, and Pork Industries

By Steve W. Martinez (martinez@ers.usda.gov)

Changes in vertical coordination in the U.S. broiler, turkey, and egg industries decades ago may provide useful insight into more recent developments in the U.S. pork industry. The need to protect relationship-specific investments created incentives for contracts and vertical integration. In the presence of relationship-specific investments, market uncertainty from a number of sources helped determine the type of contract/vertical coordination alternative selected.

www.ers.usda.gov/publications/aib747/aib74705.pdf
May 2002

Consolidated Markets, Brand Competition, and Orange Juice Prices

By James Binkley, Patrick Canning (pcanning@ers.usda.gov), Ryan Dooley, and James Eales

This paper examines how consolidation in the marketing system affects prices for orange juice. We isolated the pricing behavior of brand marketers, wholesalers, and retailers by observing the retail prices for specific orange juice products, including leading national brands and private label brands, in 54 U.S. markets over a 1-year period. The data provided little compelling evidence that consolidated markets engaged in non-competitive pricing behavior. Increased brand competition, particularly between private labels and leading national brands, did, however, appear to lower average market prices.

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Exploring Food Purchase Behavior of Low-Income Households: How Do They Economize?

By Ephraim S. Leibtag (eleibtag@ers.usda.gov) and Phil R. Kaufman (pkaufman@ers.usda.gov)

This report compares food purchases by U.S. households of different income levels and finds that low-income shoppers spend less on food purchases despite some evidence that they face generally higher purchase prices. Households can economize on food spending by purchasing more discounted products, favoring private-label (generic) products over brand, pursuing volume discounts, or settling for a less expensive product (for example, less lean beef) within a product class. A 1998 sample of foodstore purchase data shows that low-income households adhere to these practices when possible, but that the typically smaller size of foodstores in urban and rural locations (compared with suburban locations) may sometimes preclude them from doing so.

www.ers.usda.gov/publications/aib747/aib74707.pdf
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